

# Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN)

Drug Class:  
Cardiovascular Agent

Category:  
Adult

## Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN) - What is it for

Nitrates are used to prevent and treat the symptoms of angina (chest pain). Angina is usually caused by insufficient blood supply and oxygen to your heart. Nitrates work by relaxing the blood vessels to the heart so that the blood and oxygen supply to the heart is increased.

Nitrates are used to treat angina in 3 ways:

- To relieve an ongoing attack by using the medicine at the start of the attack.
- To prevent attacks from occurring by using the medicine just before an attack is expected to occur.
- To reduce the number of attacks that occurs by using the medicine regularly on a long-term basis.

## Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN) - Side Effects, Precautions, and Contraindications

What side effects can Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN) cause?

- Headache
- Flushing or redness of the skin
- Dizziness
- Weakness or fainting
- Rapid heartbeat
- Nausea and vomiting
- After taking a dose of this medicine, you may experience temporary headaches. This is a common side effect that will resolve after taking the medicine for a while. You may choose to use painkillers at the start of using nitrates, such as paracetamol, to relieve the temporary headaches. Do consult your doctor should this headache persist or become severe.
- Dizziness, lightheadedness or faintness may occur, especially when you get up quickly from a lying or sitting down. Getting up slowly or changing postures slowly may help. Do take a rest by sitting or lying down if you feel dizzy.
- Dizziness, lightheadness or fainting is more likely to occur with concurrent alcohol consumption, long periods of standing, exercise or hot weather. Do be careful to limit the amount of alcohol you drink while you are on nitrates. Extra precaution should

also be taken during exercise, hot weather or if it is necessary to stand for long periods of time.

Before taking Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN), what precautions must I follow?

## Allergies

Inform your doctor if you have previously experienced any unusual or allergic reactions to nitrates or nitrites. Do also let your doctor know of any other allergies that you may have, including allergies to certain foods, preservatives or dyes.

## Pregnancy

Inform your doctor and pharmacist if you are pregnant, plan to become pregnant or are breast-feeding. Do also alert your doctor if you become pregnant while taking nitrates.

## Older adults

Elderly are more sensitive to the effects of nitrates, and are more likely to experience dizziness or lightheadedness.

## Other medicines

Inform your doctor or pharmacist if you happen to be taking other medications for the control of high blood pressure, heart medications or sildenafil (Viagra®), tadalafil (Cialis®), vardenafil (Levitra®).

## What food or medicine must I avoid when I take Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN)?

Do NOT take sildenafil (Viagra®), tadalafil (Cialis®), vardenafil (Levitra®) if you are taking this medicine. When sildenafil, tadalafil or vardenafil is taken with nitrates, blood pressure can lower drastically, resulting in dizziness, lightheadness or fainting. In some cases, death has been reported when sildenafil was taken with nitrates.

## Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN) - Dosage and How to Use

How should Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN) be used?

You should use this medication as told by your doctor or pharmacist.

### (a) For oral tablets

- Available oral forms of nitrates are isosorbide dinitrate and isosorbide mononitrate.

- When swallowed, nitrates are used to reduce the number of angina attacks that occur. They do not act fast enough to relieve the pain of an angina attack.
- Nitrate tablets are usually taken on an empty stomach (at least 30mins to 1 hour before food or 2 hours after meals) with a full glass of water.
- The regular release tablet is taken once every 6 to 8 hours.
- The extended-release tablet can be taken less frequently: 1 to 2 times a day is sufficient. These tablets should NOT be crushed or chewed.

### (b) Sublingual tablet / Mouth spray

- Available sublingual form is glyceryl trinitrate (GTN).  
GTN is available in the form of oral tablet and mouth spray.
- GTN sublingual tablets or mouth spray can be used to relieve the pain of angina attacks or to prevent an expected angina attack, e.g. moments before exercising.
- The tablet or spray should be used at the first sign of an attack of angina. DO NOT wait until severe pain develops.
- This medicine usually gives relief in less than 5 minutes. Detailed steps of how to use this medicine in emergency situations are provided below:
  - Place 1 tablet or spray under the tongue when you encounter chest pain or breathing difficulties.
  - In the event that the pain is not relieved, use a second tablet or spray. Call for an ambulance immediately.
  - If the pain still persists after 5 minutes from the second administration, a third tablet or spray may be used.
  - If you are using GTN to prevent an expected angina attack, you may either dissolve the tablet under your tongue or administer a spray 5 to 10 minutes before engaging in the angina-inducing activity.
- Directions on how to take GTN sublingual tablets:
  - Place a tablet under your tongue and allow it to dissolve completely.
  - You may chew the tablet to small pieces to aid absorption.
- Directions on how to use GTN mouth spray:
  - Before using GTN mouth spray for the first time, check that the spray is working by pressing the spray button a few times until it produces a fine mist of liquid.
  - If you do not need to use GTN mouth spray very often, remember to check the spray regularly to see that it still works properly.
  - Remove the plastic cover, and do NOT shake the plastic bottle.
  - Holding the bottle upright and close to your mouth, press the button to deliver one medicated spray under your tongue.
  - Release the button and close your mouth. Avoid swallowing immediately after using the spray, and note NOT to inhale the spray.
  - Do not use Glytrin if you are near a naked flame, e.g. a cigarette.

### (c) Topical / transdermal patches

- Available topical form of nitrates is the GTN patches.
- Topical nitrates are used to reduce the number of angina attacks.
- Apply the patch to clean, dry skin with little or no hair, free from scars, cuts or irritation.

- Remove the previous patch before applying a new one, and apply a new patch if the patch falls off or comes loose.
- Apply each patch to a different area of the skin to prevent skin irritation.
- Do NOT trim or cut the adhesive patch to adjust the dosage of GTN. Speak to your doctor if you see the need to adjust your dosage, or if you think your medication is not working.
- The dose of GTN is different for different patients; follow your doctor's instructions on when to apply and remove the skin patch. The patch is usually left on for 12 to 18 hours a day.

What should I do if I miss a dose?

- If you miss a dose, take the missed dose as soon as you remember.
- If it is almost time for your next dose, take only the usual dose.
- Do not double the dosage

How should I store Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN)?

- Keep away from children
- Keep in a cool, dry place, away from direct sunlight

How should I dispose of Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN) safely?

Consult your pharmacist about the proper disposal of your medication.

### Isosorbide mononitrate, Isosorbide dinitrate, Glyceryl trinitrate (GTN) - Additional Information

If you have been taking this medicine regularly for several weeks or more, do not suddenly discontinue use. Sudden discontinuation may precipitate angina attacks. Ask your doctor for recommendations on how to reduce the dose gradually before stopping completely.

### Other storage information

- Store it in a cool, dry place away from excessive heat and moisture.
- For GTN tablets: The active ingredient evaporates very quickly from the tablet, as such the following conditions should be observed as far as possible to ensure the continual potency of your tablets.
- Keep the tablets in the original brown glass container in sealed condition until first use.
- Never transfer the tablets into other containers.
- Store the brown glass container in a cool, dry place.
- Do NOT store the tablets in the refrigerator.
- Carry the tablets wherever you go, but try not to keep them close to your body; carry them in a purse or a bag instead.

- Label the bottle with the opening date upon first use. If you do not finish using the tablets within 2 months from the opening date, discard the old tablets and obtain a fresh supply.

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